

We claim:

ART 34 AMDT

1. Emulsion paint comprising
 - i) a polymeric binder, which comprises at least one copolymer P of ethylenically unsaturated monomers M in the form of an aqueous polymer dispersion which has a glass transition temperature T_g in the range from -10 to $+50^\circ\text{C}$, and which contains in polymerized form
 - a) 0.1 to 1.5% by weight, based on the overall weight of the copolymer P, of itaconic acid as acidic monomer M1, its salt and/or its anhydride, it being possible for up to 50% by weight of the itaconic acid to be replaced by another monomer having at least one acid group or one neutralized acid group,
 - b) at least 80% by weight monomers M2, selected from vinylaromatic monomers, the esters of ethylenically unsaturated C_3 - C_8 monocarboxylic acids with C_1 - C_{12} -alcohols, and the vinyl esters of aliphatic C_1 - C_{12} monocarboxylic acids,and which contains no polymerized acrolein,
 - ii) at least one inorganic pigment,
 - iii) if desired, inorganic fillers/extenders, and
 - iv) customary auxiliaries.
2. A formulation as claimed in claim 1, in which itaconic acid is the sole acidic monomer.
3. Emulsion paint as claimed in claim 2 in which the monomers M2 are selected from methyl methacrylate, ethyl methacrylate, n-butyl methacrylate, tert-butyl methacrylate, ethyl acrylate, n-butyl acrylate, tert-butyl acrylate and 2-ethylhexyl acrylate.
4. Emulsion paint as claimed in any one of the preceding claims, in which the monomers M additionally comprise from 0.1 to 10% by weight, based on the overall weight of the copolymer P, of monomers M3 comprising urea groups.

Claims as amended during International Preliminary Examination

34

5. Emulsion paint as claimed in any one of the preceding claims, in which the aqueous dispersion of the copolymer P is obtainable by free-radical aqueous emulsion polymerization of the monomers M in accordance with a monomer feed process where at least 50% by weight and in particular all of the itaconic acid is present in the monomer feed.
6. Emulsion paint as claimed in claim 5, in which the free-radical aqueous emulsion polymerization is conducted in at least two polymerization stages, where the composition of the monomers to be polymerized in the 1st stage is different from that of the monomer mixture of the monomers to be polymerized in the 2nd stage.
7. Emulsion paint as claimed in any one of the preceding claims, in which the ratio of inorganic constituents to copolymer P is characterized by a pigment volume concentration pvc > 10%.
8. The use of a copolymer P comprising itaconic acid, as defined in any one of claims 1 to 6, for improving the wet abrasion resistance of polymer-bound coating compositions, especially emulsion paints.

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ADD

A₁

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add
B₄

35

add
C₈

40

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